

Work Order ID 163418

Tuesday, June 27, 2017 11:39:37 AM

163418

Page 1

Item ID: D4769-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: EC145 Wearplate Assembly

Start Date: 7/10/2017 Start Qty: 2.00

2

Cust Item ID:

Required Date: 7/17/2017 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

DAS
21
9-89

Date: JUL 03 2017

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4769

D

110

Weld per dwg A/R S.S. rod Batch: **M134992** 0.00***110***

Large Fab

Memo

1.28

Large Fab

1- Weld D4770-041 to wearplate as per dwg D4769

2- Weld shim as per dwg

3- Transfer drill holes in bar

2 Q.L 1708-15

120

QC9- Inspect visual per QSI004- Fusion Welds 0.00

120

QC

Memo

0.00

Quality Control

② 1708-17 PD

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Page 2

Item ID: D4769-041

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N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: EC145 Wearplate Assembly

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2

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Required Date: 7/17/2017 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC5- Inspect part completeness to step on W/O	0.00							
130						<u>2</u>	<u>17.03.17</u>	<u>PD</u>	
QC	Memo	0.04							
Quality Control									
140		0.00							
140						<u>2</u>			
SprayPaint	Memo	0.20							
Spray Painting	APPLY COATING ON CONCAVE SURFACE AS PER DWG AND QSI005 (SEE NOTE 10 and 11 ON DWG) BATCH: <u>138220</u>								
150	QC5- Inspect part completeness to step on W/O	0.00							
150						<u>2</u>			
QC	Memo	0.04							
Quality Control									

DAS
41
9-89
AUG 17 2017DAS
38
-89
AUG 17 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

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Page 3

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Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location: 51604

0.00

160

Packaging

Memo

0.02

Packaging

INDICATE FWD DIRECTION AS PER DWG
LOCATION: FP002

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.20

Quality Control

17/9/5 *[Signature]*

UM 17/8/18

DAS
21
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Tuesday, June 27, 2017 11:39:35 AM

Page 1

Work Order ID: 163418

163418

Parent Item: D4769-041

D4769-041

Parent Item Name: EC145 Wearplate Assembly

Start Date: 7/10/2017

Required Date: 7/17/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 13.03.27 NEW ISSUE DD VERF:JLM IPP
REV:B 13.11.13 DWG REV.B DD VERF:JLM IPP REV:C
15.06.10 DWG REV.C DD VERF:JLM IPP REV:D 17.04.17
AS PER DWG REV.D DD VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4682-9 *D4682-9* Wearplate Shim		Manufactured	No			110	Each	16.0000	1	2			
									**	Q-L 17-08-15			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				WA002				16					
				146079				6					
				147710				10		2			
D4769-1 *D4769-1* Wearplate		Manufactured	No			110	Each	4.0000	1	2			
									**	Q-L 17-08-15			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				WA001				2					
				133447				2		2			
				WA002				2					
				138959				2					
D4770-041 *D4770-041* Bar Weldment		Manufactured	No			110	Each	0.0000	2	4			
									**	Q-L 17-08-15			
				1163372						4			

DQA: _____ Date: _____



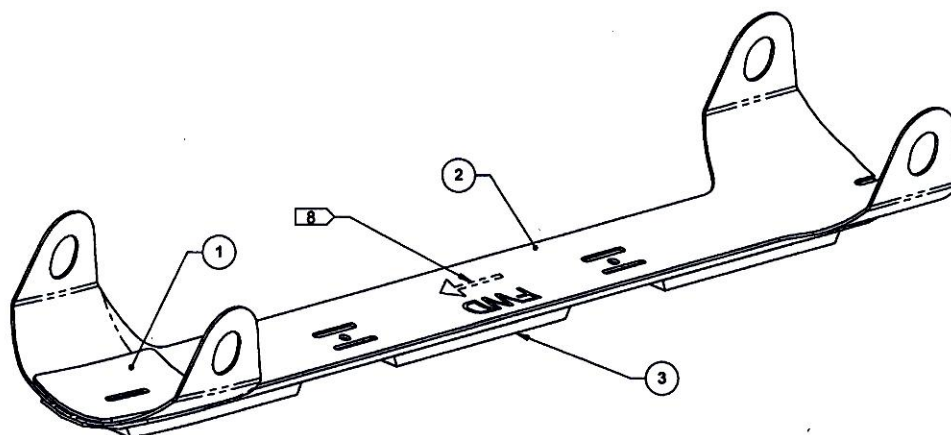
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐								
		OTHER :							

ITEM	QTY	P/N	DESCRIPTION
	X	D4769-041	WEARPLATE ASSY
1	1	D4682-9	WEARPLATE SHIM
2	1	D4769-1	WEARPLATE
3	2	D4770-041	BAR WELDMENT



D4769-041 WEARPLATE ASSY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 163418 *MJS*
170703

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI044 METHOD 6.1
- 7) WEIGHT: 3.02 lbs
- 8) INDICATE FWD DIRECTION IN LOCATION SHOWN USING WHITE PAINT MARKER

RELEASED
2017-04-12
EWN 11-552

D	SHEET 1: WEIGHT UPDATE, D4770-041 BAR WELDMENT WAS D4770-1 BAR. SHEET 2: REMOVE DETAIL VIEW WELD INFORMATION IS ON D4770-041 BAR DRAWING.	SAD	16.04.14
C	D4682-9 WAS D4769-3, MINOR DIM CHANGES. WEARPLATE FORMING MODIFIED TO ACCOMMODATE MATERIAL SPRING BACK. TEXTURED COATING WAS ROCKGUARD. ADD FWD BEND TO D4769-1, ADD FWD DIRECTION INDICATION, REMOVE D4769-3	AP	15.04.01
B	THRU HOLES NOW SLOTS, VARIOUS DIMENSIONAL CHANGES, UPDATED PART WEIGHTS, REMOVED GRAIN DIRECTION, D4769-3 WAS D4682-9, ADDED D4769-3 SHT 5.	AP	13.09.10
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC.	
DRAWN	SAD	EUGENE, OR	
CHECKED	AJS	DRAWING NO.	REV. D
MFG. APPR.	DD	D4769	SHEET 1 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	16.04.14	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

APPROVED

D4682-9
WEARPLATE SHIM

TYP

FWD
←---

10

9 11
2 PL

D4769-1
WEARPLATE

D4770-041 BAR WELDMENT
2 PL

D4769-041 WEARPLATE ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI044 METHOD 6.1
- 7) WEIGHT: 3.02 lbs
- 8) WELDING: PER QSI 004
- 9) TRANSFER DRILL $\phi 0.188$ HOLE FROM D4769-1 WEARPLATE THRU D4770-041 BAR WELDMENT
- 10) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.020 - 0.040 THK, PER QSI 005 SECTION 4.9
- 11) OPEN UP DRAIN HOLE IF NECESSARY TO $\phi 0.188$ AFTER APPLYING TEXTURED COATING

RELEASED
2017-04-12

APPROVED

DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	SAD		
CHECKED	AJS	DRAWING NO.	REV. D
MFG. APPR.	DD	D4769	SHEET 2 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	16.04.14	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	